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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,773	11/11/2003	Shinichi Nakamura	9319H-000587	4378
27572 7590 04/19/2007 HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER KIM, CHRISTOPHER S	
			ART UNIT 3752	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			04/19/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/705,773

Applicant(s)

NAKAMURA ET AL.

Examiner

Christopher S. Kim

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/29/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 29, 2007 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "plurality of adhered caps each including a main body having a concave surface" recited in claim 21; the "seal packing is seated around a peripheral portion of said concave surface" recited in claim 22; the "one of the said adhered caps is adhered to a function droplet ejection head" recited in claims 23 and 24; the "first lift cylinder and second lift cylinder" recited in claim 26; the "plurality of suction tubes" recited in claim 27 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. The amendment filed January 29, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: deleting the phrase, "which includes each of the two arrays of ejection nozzles 39 of the function liquid droplet ejection head 31" from paragraph 80.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

5. Claims 21-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites “a plurality of adhered caps” in line 5 which appears to be a double inclusion of the “cap unit” recited in line 3. The specification discloses, in paragraph 79, “in the cap unit 72, the twelve caps 73 are disposed...”

The preamble of claim 21 recites a “suction unit” but the claim body recites “...adhered caps...” The specification discloses that the caps adhere to the to the function liquid droplet ejection head. Claim 23 and 24 clearly define that the adhered caps are adhered to a function droplet ejection head. It is uncertain whether applicant is claiming the subcombination of a suction unit or the combination of a suction unit and a function droplet ejection head. The specification discloses that the suction unit and the function droplet ejection head are components of the liquid droplet ejection apparatus.

Regarding claims 23 and 24, the preamble recites a suction unit, but the claim body recites “adhered to a function droplet ejection head.” It is uncertain whether applicant is claiming the subcombination of a suction unit or the combination of a suction unit and a liquid droplet ejection apparatus.

***Claim Rejections - 35 USC § 102***

6. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Reed et al. (5,797,546).

Reed discloses a suction unit comprising:

a cap unit having a plurality of adhered caps 20, 22 each including a main body having a concave surface (interior curved surface of the cylindrical pumps 20, 22)  
a support member (support of ram 38)  
a lift mechanism 38  
a plurality of ejectors 190  
a suction system 24, 26.

### ***Response to Arguments***

7. Applicant's arguments filed January 29, 2007 have been fully considered but they are not persuasive.

Applicant argues that figures 6 shows details of each cap. No concave surface is disenable in figure 6.

Applicant argues that figure 8 shows a schematic representation sufficient for one of ordinary skill in the art to understand. Figure 8 does not show "one of the said adhered caps is adhered to a function droplet ejection head." 37 CFR 1.83(a) requires that the drawings must show every feature of the invention specified in the claims.

Remainder of applicant's arguments directed to the drawing objections is responded to in kind.

Regarding applicant's amendment to the specification, deleting the phrase, "which includes each of the two arrays of ejection nozzles 39 of the function liquid droplet ejection head 31" from paragraph 80 would appear to constitute new matter. Applicant is not permitted to undo or retract what was taught in the disclosure as originally filed.

Regarding applicant's argument directed to the indefiniteness of the claims reciting a combination or a subcombination, see the clarification above in addition to the response in the Advisory action mailed on January 16, 2007.

Applicant's argument of non-analogous art is not proper for an anticipated rejection under 35 U.S.C. 102(b).

Applicant argues that Reed does not disclose that the cap unit is adhered. The caps 20, 22 are adhered to (stay attached to) the apparatus.

Applicant argues that the object to be sucked by the ejector is not a function liquid but a resin and catalyst. Applicant merely makes an assertion and provides no supporting evidence. A resin and catalyst constitutes a function liquid.

Applicant argues that the object of transporting by the suction tube system is not the function liquid and the origin of transportation is not the plurality of adhered caps. Applicant's argument does not appear to be commensurate in scope with the claimed invention.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher S. Kim  
Primary Examiner  
Art Unit 3752

CK